CLAIMS

1. A soft highly absorbent tissue product comprising long and short paper making fibers and a ketene dimer sizing agent.

2. A soft absorbent paper product comprising paper making fibers and at least about 1 pound per ton of a ketene dimer sizing agent, the tissue having an absorbency rate test of less than about 10 seconds.

3. The paper product of claim 2 in which the product comprises a three-layer base sheet.

4. A soft absorbent tissue sheet comprising: a first layer and a second layer; the first layer comprising predominately long paper making fibers and the second layer comprising predominantly short paper making fibers; at least one of the layers further comprising a ketene dimer sizing agent and a surface active agent; and the layer comprising the ketene dimer and wetting agent being readily wetable by water.

5. The soft tissue sheet of claim 4, in which the sheet is creped.

6. The soft tissue sheet of claim 4, in which the sheet is through dried.

7. The soft tissue sheet of claim 4, in which the absorbency rate test is less than about 10 seconds.

8. The tissue of claim 4 in which the tissue sheet comprises a third layer.

9. An absorbent paper sheet having improved softness comprising: a first sheet surface and a second sheet surface; a layer comprising paper making fibers; the layer having a surface; the surface of the layer corresponding to a surface of the paper sheet; the surface of the layer having a ketene dimer sizing agent therein; the surface of the sheet having a surface

active agent therein; and the wetability of the sheet being equivalent to a sheet of similar composition but not having the ketene dimer sizing agent and wetting agent therein.

10. The paper sheet of claim 9, in which the sheet is a bath tissue.

11. The paper sheet of claim 10, in which the bath tissue has a second layer comprising paper making fibers.

12. The paper sheet of claim 9, in which the sheet is a towel product.

13. The paper sheet of claim 12, in which the towel product has a second layer comprising paper making fibers.

14. The paper sheet of claim 9, in which the sheet is a facial tissue.

15. The paper sheet of claim 14, in which the facial tissue has a second layer comprising paper making fibers.

16. The paper sheet of claim 9 comprising a second and a third layer; the surface of the layer corresponding to the first sheet surface and the surface of the third layer corresponding to the second sheet surface.

17. An absorbent paper sheet having improved softness comprising cellulose paper making fibers and a ketene dimer sizing agent and a surface active agent; the sizing of the sheet being no greater than about three times the sizing of a sheet of similar composition but not having the ketene dimer sizing agent and surface active agent.

18. A method of making a soft highly absorbent paper sheet product having improved softness comprising:

(a) forming an aqueous slurry comprising paper making fibers in a pulper;

(b) combining a the ketene dimer sizing agent with the paper making fibers;

(c) combining a surface active agent with the paper making fibers; and,

(d) removing the water from the aqueous slurry.

19. The method of claim 18, in which the ketene dimer sizing agent is combined with the paper making fibers prior to the removal of water from the slurry .

20. The method of claim 18, in which the ketene dimer sizing agent is combined with the paper making fibers after the removal of water from the aqueous slurry.

21. A soft highly absorbent paper product comprising a blended base sheet, a ketene dimer sizing agent, and a surface active agent.

22. The soft highly absorbent paper product of claim 21, in which there are at least 1 ½ pounds per ton of the sizing agent and the product has a water absorbency rate of less than 10 seconds